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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,586	02/12/2002	Perry J. Blackshear	14014.0349U2	9700

7590 07/27/2004

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EXAMINER	
SISSON, BRADLEY L	
ART UNIT	**PAPER NUMBER**
1634	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/049,586	BLACKSHEAR ET AL.	
	Examiner	Art Unit	
	Bradley L. Sisson	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *39-63* is/are pending in the application.

4a) Of the above claim(s) *39-52, 62 and 63* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *53-61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group IV, claims 53-61, in the reply filed on 17 March 2004 is acknowledged. The traversal is on the ground(s) that the claims are not simply linked through TTP, but rather, through the discovery that TTP causes a degradation of mRNA via binding to the ARE. This is not found persuasive because the claims are not limited to where TTP must demonstrate such a property or that it even exist. Accordingly, the claims are not so linked by a special technical feature such that they have unity of invention.

2. The requirement is still deemed proper and is therefore made FINAL.

3. Claims 39-52, 62, and 63 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 17 March 2004.

Specification

4. The disclosure is objected to because of the following informalities: The specification has been found to contain representations of oligonucleotide sequences that are not accompanied with the requisite SEQ ID NO. See, for example, page 35, 62, 65, and 90.

5. Appropriate correction is required.

6. The use of the trademark NONIDET P40 (aka, NP40) and TWEEN 20 have been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

7. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner, which might adversely affect their validity as trademarks.

8. The specification is objected to as documents have been improperly incorporated by reference. In particular, the specification states:

Incorporation by Reference

Throughout this application, various publications, patents, and/or patent applications are referenced in order to more fully describe the state of the art to which this invention pertains. The disclosures of these publications, patents, and/or patent applications are herein incorporated by reference in their entireties to the same extent as if each independent publication, patent, and/or patent application was specifically and individually indicated to be incorporated by reference.

Such omnibus language fails to specify what specific information applicant seeks to incorporate by reference and similarly fails to teach with detailed particularity just where that specific information is to be found in each of the cited documents. As set forth in *Advanced Display Systems Inc. v. Kent State University* (Fed. Cir. 2000) 54 USPQ2d at 1679:

> Incorporation by reference provides a method for integrating material from various documents into a host document--a patent or printed publication in an anticipation determination--by citing such material in a manner that makes it clear that the material is effectively part of the host document as if it were explicitly contained therein. *See General Elec. Co. v. Brenner*, 407 F.2d 1258, 1261-62, 159 USQP 335, 337 (D.C. Cir. 1968); *In re Lund*, 376 F.2d 982, 989, 153 USPQ 625, 631 (CCPA 1967). **To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.** *See In re Seversky*, 474 F.2d 671, 674,

> 177 USPQ 144, 146 (CCPA 1973) (providing that incorporation by reference requires a statement "clearly identifying the subject matter which is incorporated and where it is to be found"); *In re Saunders*, 444 F.2d 599, 602-02, 170 USPQ 213, 216-17 (CPA 1971) (reasoning that a rejection or anticipation is appropriate only if one reference "expressly incorporates a particular part" of another reference); *National Latex Prods. Co. v. Sun Rubber Co.*, 274 F.2d 224, 230, 123 USPQ 279, 283 (6th Cir. 1959) (requiring a specific reference to material in an earlier application in order to have that material considered a part of a later application); *cf. Lund*, 376 F.2d at 989, 13 USPQ at 631 (holding that **a one sentence reference to an abandoned application is not sufficient to incorporate from the abandoned application into a new application**). (Emphasis added.)

Accordingly, the cited documents are not considered to have been properly incorporated by reference and as such, have not been considered with any effect towards their fulfilling, either in part or in whole, the enablement, written description, or best mode requirements of 35 USC 112, first paragraph.

9. The instant application was filed with claims numbered 1-68, of which there were two claims numbered 43. Beginning with the second of said claim 43, said claims were renumbered claims 44-69. The dependency of the claims, including that of claims 53-61, which were elected by applicant for examination on the merits, has not been renumbered. Applicant is urged to consider the appropriate dependency of the claims and to amend the claims accordingly.

Information Disclosure Statement

10. The listing of references in the specification (e.g., pages 44-50, 56-60, 80-87, and 104-106) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 53-61 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Claims 53-61 are indefinite in that the full name of the abbreviations TTP, ARE, TZF, TTP-like, TNF-α, GM-CSF are not used with the first occurrence of the abbreviation. Applicant is urged to amend the claims using the following format for the first instance the abbreviation is to be used in a series of claims; e.g., --tristetraprolin (TTP)--.

14. Claims 54-61 are indefinite in that they all depend from a non-elected claim (claim 52). Applicant is urged to consider having the claims depend from claim 53.

15. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

16. Claims 53-61 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Attention is directed to the decision in *University of Rochester v. G.D. Searle & Co.* 68 USPQ2D 1424 (Fed. Cir. 2004) at 1428:

> To satisfy the written-description requirement, the specification must describe every element of the claimed invention in sufficient detail so that one of ordinary skill in the art would recognize that the inventor possessed the claimed invention at the time of filing. Vas-Cath, 935 F.3d at 1563; see also Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572 [41 USPQ2d 1961] (Fed. Cir. 1997) (patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed invention"); In re Gosteli, 872 F.2d 1008, 1012 [10 USPQ2d 1614] (Fed. Cir. 1989) ("the description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed"). Thus, an applicant complies with the written-description requirement "by describing the invention, with all its claimed limitations, not that which makes it obvious," and by using "such descriptive means as words, structures, figures, diagrams, formulas, etc., that set forth the claimed invention." Lockwood, 107 F.3d at 1572.

For convenience, claim 53, the only independent claim under consideration on the merits, is reproduced below.

53 ~~52.~~ **A method of identifying a compound that modulates the activity of TTP or a TTP-like polypeptide, comprising:**

a) contacting a sample with the compound, and

b) detecting or measuring the binding between an ARE and a TZF polypeptide consisting essentially of a TTP zinc finger domain or a polypeptide comprising a TTP-like zinc finger domain in the sample, whereby an increase or decrease in the binding between the ARE and the polypeptide, relative to the binding between the ARE and the polypeptide in the sample not contacted with the compound, identifies a compound that modulates the activity of TTP or a TTP-like polypeptide.

17. A review of the disclosure finds the following examples:

- Example 1, pages 33-50, "TTP is a Regulator of GM-CSF mRNA Deadenylation and Stability;"
- Example 2, pages 50-60, "Inhibitor of Macrophage TNFα Production by TTP;"
- Example 3, pages 61-87, "Evidence that TTP Binds to AU-Rich Elements and Promotes the Deadenylation and Destabilization of TNFα mRNA;" and

- Example 4, pages 87-106, "The tandem zinc finger domain from TTP and TTP-related proteins binds to AU-rich elements and destabilizes mRNA."

As is plainly evident, none of the examples is drawn to the claimed method. A review of the disclosure fails to locate an adequate written description of the claimed invention. While applicant has sought to incorporate numerous documents, said documents have been improperly incorporated by reference and as such cannot be relied upon for satisfaction of the written description requirement of 35 USC 112, first paragraph. Assuming *arguendo*, that the documents could e relied upon, a point that the Office does not concede, the specification still does not set forth in sufficient detail, e.g., by way of exemplification, how the claimed invention is to be practiced. It appears that applicant is attempting to satisfy the written description requirement of 35 USC 112, first paragraph, through obviousness. Obviousness, however, cannot be relied upon for satisfaction of the written description requirement. In support of this position, attention is directed to the decision in *University of California v. Eli Lilly and Co.* (Fed. Cir. 1997) 43 USPQ2d at 1405, citing *Lockwood v. American Airlines Inc.* (Fed. Cir. 1997) 41 USPQ2d at 1966:

> Recently, we held that a description which renders obvious a claimed invention is not sufficient to satisfy the written description requirement of that invention.

18. For the above reasons, and in the absence of convincing evidence to the contrary, claims 53-61 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

19. Claims 53-61 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in

the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As set forth in *Enzo Biochem Inc., v. Calgene, Inc.* (CAFC, 1999) 52 USPQ2d at 1135, bridging to 1136:

> To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.' " *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365, 42 USPQ2d 1001, 1004 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)). Whether claims are sufficiently enabled by a disclosure in a specification is determined as of the date that the patent application was first filed, see *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986).... We have held that a patent specification complies with the statute even if a "reasonable" amount of routine experimentation is required in order to practice a claimed invention, but that such experimentation must not be "undue." See, *e.g.*, *Wands*, 858 F.2d at 736-37, 8 USPQ2d at 1404 ("Enablement is not precluded by the necessity for some experimentation . . . However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' ") (footnotes, citations, and internal quotation marks omitted). In *In re Wands*, we set forth a number of factors which a court may consider in determining whether a disclosure would require undue experimentation. These factors were set forth as follows: (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. *Id.* at 737, 8 USPQ2d at 1404. We have also noted that all of the factors need not be reviewed when determining whether a disclosure is enabling. See *Amgen, Inc. v. Chugai Pharm. Co., Ltd.*, 927 F.2d 1200, 1213, 18 USPQ2d 1016, 1027 (Fed. Cir. 1991) (noting that the *Wands* factors "are illustrative, not mandatory. What is relevant depends on the facts.").

20. It is well settled that one cannot enable that which they do not yet possess. As evidenced above, the specification does not reasonably support the position that applicant was in possession of the claimed invention. Further, the specification fails to teach the essential method steps, starting materials, and reaction conditions required to practice the full scope of the invention, for as shown above, none of the examples are directed to the claimed method and the cited documents have not been properly incorporated by reference. The situation at hand is analogous

to that in *Genentech v. Novo Nordisk A/S* 42 USPQ2d 1001. As set forth in the decision of the Court:

> " '[T]o be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.' *In re Wright* 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993); *see also Amgen Inc. v. Chugai Pharms. Co.*, 927 F. 2d 1200, 1212, 18 USPQ2d 1016, 1026 (Fed Cir. 1991); *In re Fisher*, 427 F. 2d 833, 166 USPQ 18, 24 (CCPA 1970) ('[T]he scope of the claims must bear a reasonable correlation to the scope of enablement provided by the specification to persons of ordinary skill in the art.').
>
> *****
>
> "Patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable. *See Brenner v. Manson*, 383 U.S. 519, 536, 148 USPQ 689, 696 (1966) (starting, in context of the utility requirement, that 'a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion.') Tossing out the mere germ of an idea does not constitute enabling disclosure. While every aspect of a generic claim certainly need not have been carried out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention.
> "It is true . . . that a specification need not disclose what is well known in the art. *See, e.g., Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1385, 231 USPQ 81, 94 (Fed. Cir. 1986). However, that general, oft-repeated statement is merely a rule of supplementation, not a substitute for a basic enabling disclosure. It means that the omission of minor details does not cause a specification to fail to meet the enablement requirement. <u>However, when there is no disclosure of any specific starting material or any of the conditions under which a process can be carried out, undue experimentation is required; there is a failure to meet the enablement requirement that cannot be rectified by asserting that all the disclosure related to the process is within the skill of the art.</u> It is the specification, not the knowledge of one skill in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement. This specification provides only a starting point, a direction for further research. (Emphasis added)

For the above reasons, and in the absence of convincing evidence to the contrary claims 53-61 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

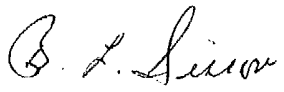
Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley L. Sisson whose telephone number is (571) 272-0751. The examiner can normally be reached on 6:30 a.m. to 5 p.m., Monday through Thursday.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bradley L. Sisson
Primary Examiner
Art Unit 1634

BLS
24 July 2004

Form PTO-1449 U.S. DEPARTMENT OF COMMERCE (Rev. 7-80) PATENT AND TRADEMARK OFFICE LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)	ATTORNEY DOCKET NO. 14014.0349U2	SERIAL NO. 10/049,586
	APPLICANT: Blackshear et al.	
	FILING DATE: February 12, 2002	GROUP: ~~1651~~ 1634

U.S. PATENT DOCUMENTS

EXAMINER INITIALS		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

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FOREIGN PATENT DOCUMENTS

BZ	A1	WO 97/42820A	11/20/97	Duke University			

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

BZ	A2	Akashi et al. Role of AUUUA sequences in stabilization of granulocyte-macrophage colony-stimulating factor RNA in stimulated cells. *Blood* 78:2005-2012 (1991)
	A3	Barnard et al. *Nucl. Acids* Res. 21:3580 (1993)
	A4	Beelman et al. Degradation of mRNA in eukaryotes. *Cell* 81:179 (1995)
	A5	Bohjanen et al. AU RNA-binding factors differ in their binding specificities and affinities. *J. Biol. Chem.* 267:6302-6309 (1992)
	A6	Bohjanen et al. An inducible cytoplasmic factor (AU-B) binds selectively to AUUUA multimers in the 3' untranslated region of lymphokine mRNA. *Mol. Cell. Biol.* 11:3288-3295
	A7	Caput et al. Identification of a common nucleotide sequence in the 3'-untranslated region of mRNA molecules specifying inflammatory mediators. *Proc. Natl. Acad. Sci. USA* 83:1670-1674 (1986)
	A8	Carballo et al. Bone marrow transplantation reproduces the tristetraprolin-deficiency syndrome in recombination activating gene-2(-/-) mice. *J. Clin. Invest.* 100(5):986-995 (1997)
	A9	Carballo et al. Evidence that tristetraprolin is a physiological regulator of granulocyte-macrophage colony-stimulating factor messenger RNA deadenylation and stability. *Blood* 95(6):1891-1899 (March 15, 2000)
	A10	Carballo et al. Tristetraprolin is a regulator of granulocyte-macrophage colony-stimulating factor mRNA stability. *Exper. Hematol.* 28(No. 7 Suppl. 1):36 (July 2000)
	A11	Carballo et al. Feedback inhibition of macrophage tumor necrosis factor-alpha (TNFα) production by tristetraprolin (TTP). *Science* 281(5379):1001-1005 (August 14, 1998)
	A12	Chen et al. AU-rich elements: characterization and importance in mRNA degradation. *Trends Biochem. Sci.* 20:465-470 (1995)
	A13	Chen et al. mRNA decay mediated by two distinct AU-rich elements from c-fos and granulocyte-macrophage colony-stimulating factor transcripts: different deadenylation kinetics and uncoupling from translation. *Mol. Cell. Biol.* 15:5777 (1995)
BZ	A14	Chen et al. Selective degradation of early-response-gene mRNAs: functional analyses of sequence features of the AU-rich elements. *Mol. Cell. Biol.* 14:8471 (1994)

BH	A15	De et al. Identification of four CCCH zinc finger proteins in *Xenopus*, including a novel vertebrate protein with four zinc fingers and severely restricted expression. *Gene* 228(1-2):133-145 (March 4, 1999)
	A16	DuBois et al. Growth factor-inducible nuclear protein with a novel cysteine/histidine repetitive sequence. *J. Biol. Chem.* 265(31):19185-19191 (1990)
	A17	Han et al. Interactive effects of the tumor necrosis factor promoter and 3' untranslated regions. *J. Immunol.* 146:1843 (1991)
	A18	Kim et al. Binding of a protein to an AU-rich domain of tumor necrosis factor α mRNA as a 35 kDa complex and its regulation in primary rat astrocytes. *Biochem. J.* 316:455-460 (1996)
	A19	Lai et al. Interactions of CCCH zinc finger proteins with mRNA. Binding of tristetraprolin-related zinc finger proteins to Au-rich elements and destabilization of mRNA. *J. Biol. Chem.* 275(23):17827:17837 (June 9, 2000)
	A20	Lai et al. Evidence that tristetraprolin binds to AU-rich elements and promotes the deadenylation and destabilization of tumor necrosis factor alpha mRNA. *Mol. Cell. Biol.* 19(6):4311-4323 (June 1999)
	A21	Ma et al. The yeast homologue YTIS11, of the mammalian TIS11 gene family is a non-essential, glucose repressible gene. *Oncogene* 10:487-494 (1995)
	A22	Muller et al. Association of AUUUA-binding protein with A+U-rich mRNA during nucleo-cytoplasmic transport. *J. Mol. Biol.* 226:721-733 (1992)
	A23	Nie et al. ERF-2, the human homologue of the murine Tis11d early response gene. *Gene* 152:285-286 (1995)
	A24	Peng et al. Functional characterization of a non-AUUUA AU-rich element from the *c-jun* proto-oncogene mRNA: Evidence for a novel class of AU-rich elements. *Mol. Cell. Biol.* 16(4):1490-1499 (1996)
	A25	Rubin et al. A poly (A) binding protein-specific sequence motif: MRTENGKSKGFGFVC binding to mRNA poly (A) and polynucleotides and its role on mRNA translation. *Biochem. Mol. Biol. Int.* 33:575 (1994)
	A26	Sachs. Messenger RNA degradation in eukaryotes. *Cell* 74:413 (1993)
	A27	Shaw et al. A conserved AU sequence from the 3' untranslated region of GM-CSF mRNA mediates selective mRNA degradation. *Cell* 46:659-667 (1986)
	A28	Stevens et al. Blastomeres and cells with mesendodermal fates of carp embryos express cth1, a member of the TIS11 family of primary response genes. *Int. J. Dev. Biol.* 42:181-188 (1998)
	A29	Stoecklin et al. Functional hierarchy of AUUUA motifs in mediating rapid interleukin-3 mRNA decay. *J. Biol. Chem.* 269(18):28591-28597 (1994)
	A30	Taylor et al. The human TTP protein: sequence, alignment with related proteins, and chromosomal localization of the mouse and human genes. *Nucl. Acids Res.* 19(12):3454 (1991)
	A31	Thompson et al. Cloning and characterization of two yeast genes encoding members of the CCCH class of zinc finger proteins: zinc finger-mediated impairment of cell growth. *Gene* 174(2):225-233 (1996)
	A32	Varnum et al. The TIS11 primary response gene is a member of a gene family that encodes with a highly conserved sequence containing an unusual Cys-His repeat. *Mol. Cell. Biol.* 11:1754-1758 (1991)
	A33	Wang et al. Posttranscriptional regulation of protein expression in human epithelial carcinoma cells by adenine-uridine-rich elements in the 3'-untranslated region of tumor necrosis factor-alpha messenger RNA. *Cancer Res.* 57:5426-5433 (1997)
BH	A34	Xu et al. Modulation of the fate of cytoplasmic mRNA by AU-rich elements: key sequence features controlling mRNA deadenylation and decay. *Mol. Cell. Biol.* 17(8):4611-4621 (1997)

EXAMINER: B. L. Lessman DATE CONSIDERED: 2/24/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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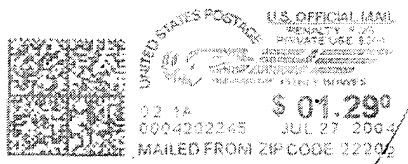

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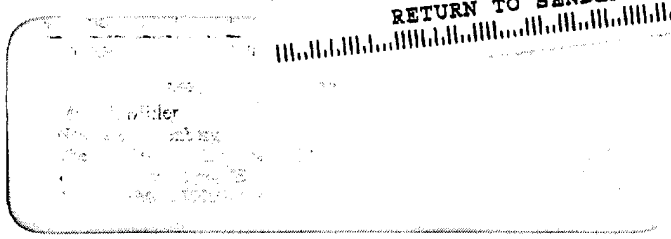

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